

# Quiz Tool - Sprint #3 Retrospective

## What went well:

- Put in 40.5 hours
- Implemented the ability to embed single choice quizzes into slides by marking them as slides. This is done by looking at the text extracted from each slide to make sure a certain format A), B), C) etc is followed.
- Rendered quizzes on students' side
- Rendered quizzes on lecturers' slide during broadcast by splitting the screen in half, and rendering a bar chart with answers as they come in
- Implemented the logic of navigating between the slides with keeping track of the answers submitted by students
- Thought about the way to persist the answers in the database
- Printed the session answers object to the console at the end of the broadcast, meaning the only thing left is to save it in MongoDB and add a PDF report generator
- Prepared for the mid project demo

## What could be improved:

- It took me a while to understand how updates of child components work, when property binding is used to inject mutable objects into the children. For example, rendering answers in real time as they come in by the broadcast/answers.component, which hold the liveAnswers object from its parent broadcast.component.
- Dealing with ng2-charts, chart.js wrapper was painful to make the bar chart update in real time
- Discovered a critical bug in production, where for some magical reason PDFtk command line utility randomly does not find files to convert to PNGs, even though they are there. This works perfectly fine on docker-compose in the development and testing environments, but for some reason ECS does not work. I was thinking I've introduced a race condition with the way my code works asynchronously, but synchronising access to the file system did not help. I will be therefore forced to re-implement PDF to PNG conversion using something other than PDFtk in the next iteration.
- Due to the unexpected bugs, I have run out of time to implement the ability to see the amount of people in the session in the broadcast component. This may not be as trivial as I initially thought, as students machines are not uniquely identified by the tool.